Workshop User's Guide for the Lisa™

NOTE:

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Introduction

1.1 The Workshop

The Workshop allows you to develop and run programs on the Lisa. It provides tools necessary to write, debug, and run programs in Pascal, BASIC, and COBOL. This manual explains how to use the Workshop and all of its tools.

Command lines provide access to all Workshop functions. The main command line, WORKSHOP, allows you to edit programs, run utilities or user programs, and use the languages available on the system. It also provides access to two subsystems: the File Manager and the System Manager.

The File Manager allows you to copy, delete, rename, and list disk files. It includes a backup function, and functions for manipulating volumes. These functions are listed in the FILE-MGR command line. (See Chapter 2.)

The System Manager provides for system configuration and defaults and process managment. Its commands are listed in the SYS-MGR command line. (See Chapter 3.)

The Lisa system can display one of two screens, called the *main screen* and the *alternate screen*. The Workshop system normally displays on the main screen. The alternate screen is used by the system Debugger. You can change to the other screen display by pressing the right hand [OPTION] key and holding it down while you press the [ENTER] key. The System Manager contains the Console command, which can be used to specify where the Workshop should display.

You can currently use the Workshop to write programs in Pascal, COBOL, and BASIC. To use these languages, refer to the appropriate language manuals. In addition to this manual, you will need:

For Pascal Programming:

- *Pascal Reference Manual for the Lisa*
- *MC68000 16 Bit Microprocessor User's Manual* (If you want to use assembly language or the Debugger)
- *Operating System Reference Manual for the Lisa* (for information on system calls)

For BASIC Programming:

- *BASIC-Plus User's Guide for the Lisa*

For COBOL Programming:

- *COBOL User's Guide for the Lisa*
- *COBOL Reference Manual for the Lisa*

If you have only a BASIC or COBOL system, you will not have all the software described in this manual. Specifically, you will not have the Debugger and can disregard the sections that pertain to it. The portions of this manual that will be most useful to BASIC and COBOL programmers are:

- The Introduction, which describes how to use the Workshop.
- The File Manager, which describes files and how to manipulate them.
- The System Manager, which describes setting up the system configuration parameters.
- The Editor, which describes how to create and modify text files, which are used as source files.

You may also use some of the utilities if they are included in your software.

1.2 Starting the Workshop

The Workshop can be booted from a diskette or a ProFile™. It will most commonly be used with a ProFile, because hard disks have more space and are faster. See the *Lisa Owner's Guide* for instructions on booting the system.

To start the system, boot from a disk that contains the Workshop software. If your disk contains only the Workshop environment, the Workshop command line will appear at the top of the screen. If you have more than one environment (for example, the Workshop and the Office System) you can use the Environments window to start up the environment you want, and switch between environments.

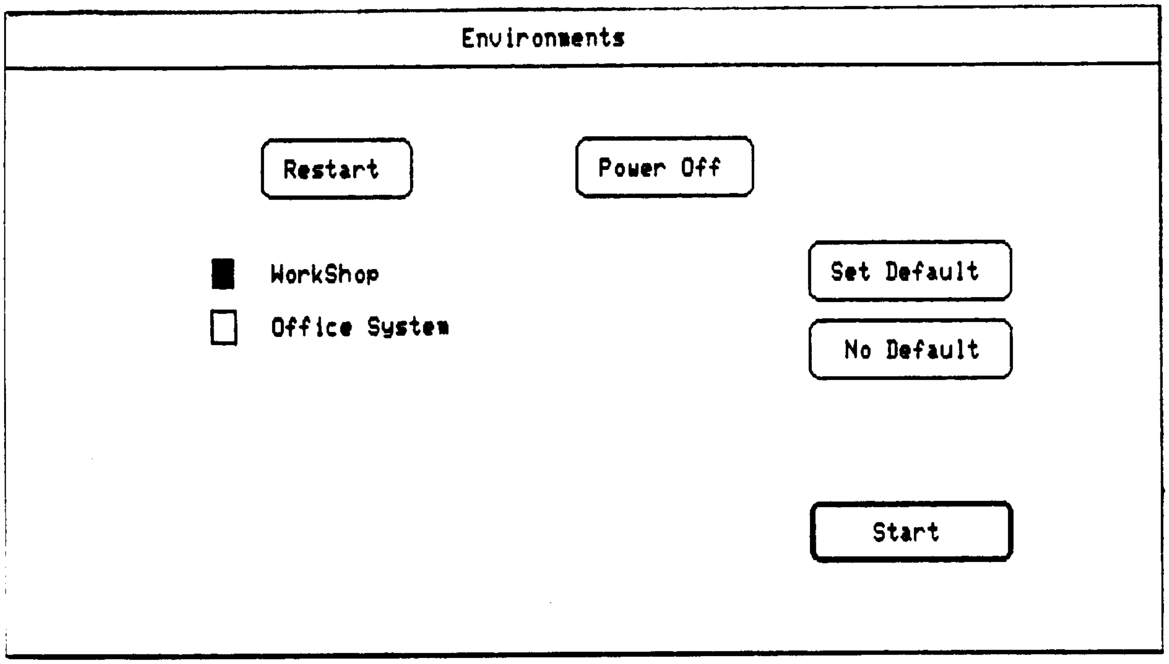
The Environments window allows you to select the environment you want to start. You can also set a default environment that will be started automatically when you boot the system. To access the Environments window while booting the system, press any key while the Lisa is starting up. The Environments window will be displayed.

The Environments window is shown in Figure 1-1. It displays five buttons:

Power Off	Turn off the Lisa
Restart	Reboot or reset the Lisa
Start	Start the selected environment
Set Default	Set the default to the selected environment
No Default	Display the Environments window on startup.

To select an environment, move the pointer to the checkbox of that environment and click the mouse button. Then move the pointer to the start button and click. The selected environment will start.

To access the Environments window from the Workshop, for example, to select another environment, use the Quit command from the Workshop command line.



☒ WorkShop
☐ Office System

Figure 1-1
The Environments Window

1.3 The Workshop Command Line

When you select the Workshop environment, the Workshop command line appears at the top of the screen. This command line lists all the primary Workshop commands and gives access to several subsystems with additional commands. The Workshop line displayed contains only some of the commands available. You can see the rest of the commands by pressing "?", the last symbol on the line. To return to the original command line, press [RETURN]. Pressing the first letter of a command initiates the command.

Most commands will ask for additional information. Type in the information using the Lisa keyboard. Some questions have a default value, displayed in square brackets ([default]). To accept the default value, press [RETURN]. If you don't want the default value, type in the value you want.

Two other subsystems have separate command lines: the File Manager and the System Manager. Their command lines can be accessed from the Workshop command line, and are used the same way.

The main, or Workshop, command line is as follows:

```
WORKSHOP: FILE-MGR, SYSTEM-MGR, Edit, Run, Pascal, Basic, Cobol, Quit, ?
```

The additional portion, displayed by pressing "?", is:

```
Assemble, Debug, Generate, MakeBackground, Link, TransferProgram
```

All the main command line commands are described as follows:

FILE-MGR (F)
This command puts you into the File Manager subsystem, which is used to manipulate the files and volumes on the system. For more information on the file manager, see Chapter 2 in this manual.

SYSTEM-MGR (S)
This command puts you into the System Manager subsystem. This subsystem provides various configuration and utility functions. See Chapter 3 in this manual for more information.

Edit (E)
The Edit command puts you into the text editor, which is used to create and modify text files. The Editor is used to create source files for BASIC, COBOL, and Pascal. It is also used for assembly language programming and to create exec files. The Editor is described in Chapter 4 in this manual.

Run (R)
The Run command causes a compiled and linked program to execute. This command is used for user-written Pascal programs, utility programs, and any other software that runs under the Workshop. The Run command asks you for the file to run. This file must be an executable object file or an exec file. When you give the Run command a file name with no .OBJ extension, it will first search for that file name. If it is not found, it will search for filename.obj. If you do not specify a volume name, the Run command will search through up to three default volumes for the file. (See Section 2.4.1 for an explanation of volume name.) These defaults can be set by the File Manager's Prefix command. See Chapter 2 for more information on the Prefix command.

The Run command will also accept an "exec file" as input. An exec file is a scenario of commands for the Workshop system to carry out. An exec file name must be preceded by a "<" or "exec/" to be processed correctly. For more information on exec files, see Chapter 9 in this manual.

Pascal (P)
This command starts the Pascal Compiler. The Compiler asks for the input file, which must be a text file; the listing file; and the output file, which will contain the object code. The Pascal Compiler is described in Chapter 5. Further information on the Pascal language can be found in the *Pascal Reference Manual for the Lisa*.

Compilation is in two steps. The first step, done by the Pascal command, produces an intermediate code file. After this, you must use the Generate command, (press G) to generate an object file from the intermediate code file.

Basic (B)
This command puts you into the BASIC Interpreter. More information on BASIC programming can be found in the *BASIC-Plus User's Guide for the Lisa.*

Cobol (C)
This command puts you into the COBOL language system. More information on COBOL programming can be found in the *COBOL User's Guide for the Lisa* and the *COBOL Reference Manual for the Lisa.*

Quit (Q)
The Quit command ends the Workshop environment. You can use it to access the Environments window to start another environment or to turn off your Lisa.

The following prompt line appears after you confirm that you want to leave the shell:

```
WorkShop_shell, Another_shell, Reboot, Power_off
```

Type the first letter of what you want to do, for example, type A to access the Environments window.

Assemble (A)
The Assemble command starts the assembler. Further information on the assembler can be found in this manual in Chapter 6. Additional information on the assembly language can be found in the *MC68000 16 Bit Microprocessor User's Manual.*

Debug (D)
The Debug command causes your program to run with a breakpoint inserted at the first instruction in the program, so you can use the debugger on the program. More information on the Debugger can be found in Chapter 8 of this manual.

Generate (G)
The Generate command converts intermediate code files produced by the Pascal compiler into object code. It is used with the Pascal Compiler and is described in Chapter 5.

MakeBackground (M)
The MakeBackground command allows you to start up a background process, then continue using the Workshop for other functions. It is assumed that the background process will not try to display on the console or require keyboard input.

Link (L)
The Link command executes the Linker. The Linker is used to prepare compiled Pascal programs and assembled routines for execution, and to link together separately compiled pieces of a program. The Linker is described in Chapter 7.

TransferProgram (T)
The Transfer Program allows your Lisa to communicate with a remote computer. It can be used as a terminal, or to transfer files between the Lisa and the remote computer. The Transfer Program is described in Chapter 10.

1.4 File System Organization and Naming

Files are stored on volumes, that are mounted on devices. A volume has a name and a directory of files that it contains. A file is specified by giving the name of the volume and the name of the file:

-volumename-filename

The Workshop maintains a working directory; you can access files in it without specifying a volume name. The working directory can be changed by using the File Manager's Prefix command. Files on the working directory can be specified by just the file name, with no leading "-":

filename

Further information on the file system can be found in Chapter 2 of this manual and in the *Operating System Reference Manual for the Lisa*.

1.5 The Workshop User Interface

This section describes conventions and standards used in the Workshop system. These ways of requesting input from the user are standard throughout the system to make it easier to use.

1.5.1 File Name Prompts

Many of the Workshop prompts are for file names. In the Lisa Operating System, you have few restrictions on what characters you can put in file names. However, you should be aware that the following restrictions exist in the Workshop:

1. You can embed blanks, but leading and trailing blanks and tabs will be removed when the Workshop processes your file prompt input.
2. Cases are preserved as you specify them.

A *pathname* has three parts: a device name, a file name, and an extension. The following conventions apply to a path name:

device (or volume) name	is up to 32 characters long, excluding '-'.
file name	is composed of alphabetic or numeric characters; spaces are permitted.

extension	is composed of alphabetic or numeric characters; spaces are permitted. An extension is optional. If present, it is the final '.' and any characters that follow (there must be at least one) in the pathname.

The combined length of the file name, plus extension, cannot exceed 32 characters.

Prompts often include default values. You do not have to enter parts of file names already supplied by defaults.

If a prompt includes a default extension which you don't want (except if the file name consists of only a logical device name), put a period at the end of the file name. The period will be removed and no extension will be added.

The following sections explain the standard responses allowed to prompts.

1.5.1.1 The CLEAR Key

The [CLEAR] key on the Lisa keyboard is an escape key. You can use it in response to a file name prompt to abort out of the command or program. No [RETURN] is required after pressing the key.

1.5.1.2 Prompts with Single Default Values

When a default value for part of a file name exists, it is shown enclosed in brackets in the prompt message; for example, [.text] indicates that there is a default file name extension value, and that that value is .text. If a default value is present, you need specify only the file name part not supplied by the default.

Extensions will not be added to file specifications consisting of device names only. Therefore, if you want to specify only a device when there is an extension default (for example, when prompted for a listing file with a default extension .TEXT and you want -printer), simply use -printer.

To use the default value for an entire file name, respond with [RETURN]. If you do not want any file to be used, even if a default value exists, respond with a backslash "\".

1.5.1.3 Prompts with Alternate Default Values

Alternate defaults are indicated by a slash. For example:

[-console]/[.text]

means you have a choice of either the console or a ".text" file. To choose the console, simply press [RETURN]. To choose a text file, respond with a file name.

1.5.1.4 Prompts with Separate Default Values

Each of the parts of a file name might have a separate default value, such as [-paraport] [-intrinsic] [.lib]. If each of the defaults is independent:

- a response with no device specification gives you the default device.
- a response with no file name gives you the default file name.
- a response with no extension gives you the default extension.

Sometimes the defaults depend upon each other. For instance, the prompt [-paraport-intrinsic] [.lib] indicates dependency, because the first two components are enclosed in the same set of brackets. When defaults are dependent, if you choose one or the other of them, you will get both. Be sure to look at what has been included in the brackets to see whether the defaults are independent or not.

1.5.1.5 Prompts with No Default Values

If you find that no default value is given in the file name prompt, use [RETURN] or a backslash to specify no file. Sometimes a file is required for the system to perform its function. If this is the case, and you specify no file, the program terminates.

1.5.1.6 Ending a List of Prompts

Some Workshop tools prompt for lists of files, as does the Linker. To indicate that you are finished responding to a prompt for a list of files, use [RETURN].

1.5.1.7 The ? Response

If you need help, or a list of program options, respond to a file name prompt by pressing the ? key followed by [RETURN]. Then proceed according to the information that appears on your screen.

1.5.2 How to Terminate an Operation

You can terminate the operation of most commands and programs by pressing -period, although termination might not be,immediate if the program being run does not recognize -period.

NOTE

Note that most Workshop tools check for -period from the keyboard even when running under exec files. This means that you can abort Workshop tools in exec files.

Unless user programs are written to recognize the -period key combination as an abort mechanism, pressing those keys will not terminate the program being run. (See PASLIBCALL, Section 5.4, for information on the function PAbortFlag, which tells whether or not those keys have been pressed.) If this is the case, you can either:

- wait for the user program to terminate so that -period can be recognized by something else, or
- press the NMI key, which forces the system into the Debugger. The NMI key is the "-" key on the numeric keyboard.

See Section 8.2 for instructions on how to stop a user program early.

1.5.3 How to Halt a Screen Display

If you want to temporarily stop the screen display, press the key and type S, which stops the program from running by blocking its current output operation. When you want to restart the screen display, again press -S.

1.5.4 Inserting and Ejecting Diskettes

You can usually insert a diskette at any time. It will be mounted and accessible after you press any key, except the , [CAPS LOCK], [OPTION], or [SHIFT] key, on the keyboard. You can usually eject a diskette by pressing the diskette button and then hitting any key on the keyboard. (When you are in the Editor, the Preferences tool, or TransferProgram, you do not need to hit a key after pressing the diskette button.)

Mounting and unmounting diskettes is handled by the Pascal run-time system in the Workshop. Therefore, the act of inserting a diskette or pressing the eject button is not recognized until Pascal I/O is performed, thus the necessity of hitting a key. If the program you are running does not use Pascal I/O, you must first return to the Workshop command line. Then enter the File Manager and Mount or Unmount your diskette.

1.6 Utility Programs

The Workshop provides various utility programs, which support functions used less often than the functions you obtain through primary commands. The utilities are described in Chapter 10.

You must Run utilities. Choose the Run command from the main command line by pressing R when the main command line is displayed. The system will ask you for the name of the file to run. Type in the name of the utility you want to run.

1.7 How Do I Install the Pascal Language System?

Because the Lisa Office System is a standard product, you *must* install it before you install any optional language systems.

To install the Pascal language system, start with your ProFile on and your Lisa off.

1. Insert the "Pascal 1" Language System diskette into your Lisa's upper or lower disk drive.
2. Press the on-off button.
3. Hold down the key and type either 1, if you put the diskette in drive 1 (the upper drive), or 2, if you used drive 2 (the lower drive).
4. Wait. It will take about 3 minutes for the Lisa to load in the Operating System and the Workshop shell from the diskette.

NOTE

If you want to stop the loading process at any time after the system has booted, hold down the key while you type a period. The system will stop copying files and you will enter the Workshop environment.

---

5. When the system is finished booting, you will see some information about the clstart.text exec file and about initializing ProFiles. Then the system will ask you a series of questions. Be sure to type [RETURN] to terminate your responses.

   - The system will ask if you want to go ahead with the process. (Type Y for yes.)
   - The system will ask you where the target ProFile is attached. It must be attached to the built-in parallel connector (PARAPORT), or the upper or lower connector of the parallel interface card in expansion slot 2 (SLOT2CHAN2 and SLOT2CHAN1, respectively).
   - The system will then ask you to insert the second Workshop diskette, "Pascal 2".
   - The system will then ask if your ProFile needs to be initialized. Do *not* initialize your ProFile if there is already an Office System on it!
   - If you don't initialize your ProFile, the system will ask you if you have enough space on the target ProFile. "Enough space" for a whole Workshop means about 1500 blocks. If you already have another Workshop Language System on the ProFile, then "enough space" means about 700 blocks. (The language systems share about 800 blocks.)
   - If you do initialize your ProFile, you will be asked if there is now a Lisa OS volume on it. Answer Y if the ProFile has ever been used with a Lisa.

You will now see a lot of text flash by on your screen--don't worry, this is supposed to happen. The commands you generated by answering the questions are now actually being executed.

If you get any error messages, stop the process by typing -period, turn off your Lisa, and start over. If you get the same error again, write it down, and call the Apple® Support Hotline to find out what to do.

When all the files on the "Pascal 2" diskette have been copied, the system will eject the diskette and ask you to insert the "Pascal 3" diskette, then continue to copy files.

When the system is finished copying files, the Workshop command line will appear.

1.8 How Do I Write and Run a Pascal Program?

To write and run a Pascal program, proceed as follows:

1. Use the Editor to create a text file with the Pascal source program. See Chapter 4 in this manual for more information on editing the file. See the *Pascal Reference Manual for the Lisa* for information on the language.
2. Compile the program with the Pascal command (press P while the Workshop command line is displayed). The output from the compiler is an intermediate file.
3. The output from the Pascal command is an I-code file. Use the Generate command to convert the I-code file into an object file. To use the Generator, press G when the Workshop command line is displayed. See Chapter 5 for more information on compiling Pascal programs.
4. Link the program with the Link command. In order to be executable, the program must be linked with the Pascal support routines contained in IOSPASLIB.OBJ. If you are using any REAL variables, you must link your program to IOSFPLIB.OBJ. For other applications you can also use other libraries and units, or assembly language routines. More information on the Linker can be found in Chapter 7.
5. The linker produces an executable object file. Press R to run the program.

Information on making system calls from Pascal can be found in the *Operating System Reference Manual for the Lisa.*

1.9 How Do I Write and Run an Assembly Language Program?

Assembly language programs must be called as procedures or functions from a Pascal main program. To write an assembly language routine, proceed as follows:

1. Use the Editor to create an assembly language source program. See Chapter 6 of this manual for information on assembly language. Chapter 4 describes the Editor.
2. Press A to execute the Assembler. The Assembler accepts the text file you created and produces an object file.
3. Declare the routines you wrote in assembly language as EXTERNAL in the main Pascal program that calls them.
4. Use the Pascal and Generate commands to create an object file from the Pascal program. See Section 1.8 for more information.

5. Use the Link command to link the Pascal object file, the assembly object file, IOSPASLIB.OBJ, and any other needed units or libraries.
6. Use the Run command to run the resulting object file.

1.10 How Do I Install the BASIC Language System?

Because the Lisa Office System is a standard product, you *must* install it before you install any optional language systems.

To install the BASIC language system, start with your ProFile on and your Lisa off.

1. Insert the "BASIC 1" Language System diskette into your Lisa's upper or lower disk drive.
2. Press the on-off button.
3. Hold down the key and type either 1, if you put the diskette in drive 1 (the upper drive), or 2, if you used drive 2 (the lower drive).
4. Wait. It will take about 3 minutes for the Lisa to load in the Operating System and the Workshop shell from the diskette.

NOTE

If you want to stop the loading process at any time after the system has booted, hold down the key while you type a period. The system will stop copying files and you will enter the Workshop environment.

---

5. When the system is finished booting, you will see some information about the cistart.text exec file and about initializing ProFiles. Then the system will ask you a series of questions. Be sure to type [RETURN] to terminate your responses.
   - The system will ask if you want to go ahead with the process. (Type Y for Yes.),
   - The system will then ask you where the target ProFile is attached. It must be attached to the built-in parallel connector (PARAPORT), or the upper or lower connector of the parallel interface card in expansion slot 2 (SLOT2CHAN2 and SLOT2CHAN1, respectively).
   - The system will then ask you to insert the second Workshop diskette, "BASIC 2".
   - The system will then ask if your ProFile needs to be initialized. Do *not* initialize your ProFile if there is already an Office System on it!

- If you don't initialize your ProFile, the system will ask you if you have enough space on the target ProFile. "Enough space" for a whole Workshop means about 1500 blocks. If you already have another Workshop Language System on the ProFile, then "enough space" means about 700 blocks. (The language systems share about 800 blocks.)
- If you do initialize your ProFile, you will be asked if there is now a Lisa OS volume on it. Answer Y if the ProFile has ever been used with a Lisa.

You will now see a lot of text flash by on your screen--don't worry, this is supposed to happen. The commands you generated by answering the questions are now actually being executed.

If you get any error messages, stop the process by typing -period, turn off your Lisa, and start over. If you get the same error again, write it down, and call the Apple Support Hotline to find out what to do.

When all the files have been copied, the Workshop command line will appear.

1.11 How Do I use the BASIC Interpreter?

To use the BASIC Interpreter, proceed as follows:

1. Use the Basic command by pressing B when the main command line is displayed. You will enter the BASIC Interpreter.
2. Enter the BASIC language statements and commands necesary to write and execute your program. The BASIC Interpreter can execute statements immediately or save them to run later. You can return to the main command line by using the BASIC command BYE.

You may also use the Editor to prepare or modify the BASIC source program, then use the BASIC Interpreter to run it. See Chapter 4 in this manual for more information on the Editor.

See the *BASIC-Plus User's Guide for the Lisa* for more information on the language.

1.12 How Do I Install the COBOL Language System?

Because the Lisa Office System is a standard product, you *must* install it before you install any optional language systems.

To install the COBOL language system, start with your ProFile on and your Lisa off.

1. Insert the "COBOL 1" Language System diskette into your Lisa's upper or lower disk drive.
2. Press the on-off button.
3. Hold down the key and type either 1, if you put the diskette in drive 1 (the upper drive), or 2, if you used drive 2 (the lower drive).

4. Wait. It will take about 3 minutes for the Lisa to load in the Operating System and the Workshop shell from the diskette.

NOTE

If you want to stop the loading process at any time after the system has booted, hold down the key while you type a period. The system will stop copying files, display "Exec processing aborted", and you will enter the Workshop environment.

---

5. When the system is finished booting, you will see some information about the cistart.text exec file and about initializing ProFiles. Then the system will ask you a series of questions. Be sure to type [RETURN] to terminate your responses.
   - The system will ask if you want to go ahead with the process. (Type Y for Yes.)
   - The system will ask you where the target ProFile is attached. It must be attached to the built-in parallel connector (PARAPORT), or the upper or lower connector of the parallel interface card in expansion slot 2 (SLOT2CHAN2 and SLOT2CHAN1, respectively).
   - The system will then ask you to insert the second Workshop diskette, "COBOL 1".
   - The system will then ask if your ProFile needs to be initialized. Do *not* initialize your ProFile if there is already an Office System on it!
   - If you don't initialize your ProFile, the system will ask you if you have enough space on the target ProFile. "Enough space" for a whole Workshop means about 1500 blocks. If you already have another Workshop Language System on the ProFile, then "enough space" means about 700 blocks. (The language systems share about 800 blocks.)
   - If you do initialize your ProFile, you will be asked if there is now a Lisa OS volume on it. Answer Y if the ProFile has ever been used with a Lisa.

You will now see a lot of text flash by on your screen--don't worry, this is supposed to happen. The commands you generated by answering the questions are now actually being executed.

If you get any error messages, stop the process by typing -period, turn off your Lisa, and start over. If you get the same error again, write it down, and call the Apple Support Hotline to find out what to do.

When all the files have been copied, the Workshop command line will appear.

1.13 How Do I Write a COBOL Program?

To write a COBOL program, proceed as follows:

1. Create a text file containing the source program by using the Editor. See Chapter 4 in this manual for more information on the Editor.
2. Press C to enter the COBOL language system. More information on COBOL programming can be found in the *COBOL User's Guide for the Lisa* and the *COBOL Reference Manual for the Lisa.*

Use the Quit coomand to exit back to the main command line.

1.14 Using the Printer

To use a printer with the Workshop system, you must set up the printer correctly, and configure your system for the printer. If you have more than one printer you will want to set up one of them as the default printer. These operations are explained below.

Setting up the Printer

The procedure for setting up a printer varies with the type of printer. See the instruction manual that came with your printer for directions on how to set it up correctly.

If your printer is an Apple Imagewriter, the default standards which have been factory preset should be satisfactory for normal use. However, if you want to modify the performance of the Imagewriter, you can get the technical specifications from the *Apple Imagewriter User's Manual, Part I: Reference.*

Configure Your Lisa for a Printer

Follow these steps to configure your Lisa for a printer:

1. From the Workshop command line, press S to enter the System Manager subsystem.
2. Then press P for Preferences. The Preferences tool is used to set up the configuration of the Lisa system and the Workshop.
3. Click on Device Connections to display what devices are connected to the Lisa.
4. Select the port to which your printer is connected. When you select the port, all devices that can be connected to that port are displayed.
5. Select printer, and additional configuration options are displayed.
6. When you are finished configuring your printer, select Quit from the Tools menu.
7. Then exit from the System Manager back to the Workshop command line by pressing Q for Quit.

Any changes made with the Preferences tool are made immediately to Parameter Memory, but changes in device connections do not take effect until the next time the Lisa is booted. Therefore, if you want to continue working, it is necessary to reboot your Lisa now. For additional information on the Preferences Tool, refer to Section 3.3.

To reboot, perform the following steps:

1. Press Q for Quit.
2. Select Y in answer to "Are you SURE you want to LEAVE the shell?"
3. Press R for Reboot.

When the system has finished rebooting, the changes you made will be in effect.

Setting a Default with Multiple Printers
If you have multiple printers connected to your Lisa, you can specify which one is to be the default printer. This means that you can establish which printer will be designated by -printer.

First configure all of the devices you want connected to the Lisa. (See the previous section and Section 3.3 for instructions on configuring devices.) After you have rebooted, return to the System Manager command line. Select D for DefaultPrinter, and enter the device name of the default printer. If you do not want to change the device name, because you want the default to remain as it is, press [RETURN] to exit back to the System Manager command line.

Rebooting is not required for the default printer setting to take effect. However, if output redirect to the printer is in effect, you will have to do the output redirection again.

Details on the DefaultPrinter option are available in Section 3.2.

1.15 The Operating System.

The Workshop runs under the Operating System of the Lisa computer. You can use some Operating System routines from a Pascal program to perform special system functions for you. These system calls are defined in the intrinsic unit SYSCALL. The dependencies of the Lisa Workshop environment are shown in Figure 1-2 on the following page.

More information on the SYSCALL interface and routines can be found in the Lisa Operating System documentation.

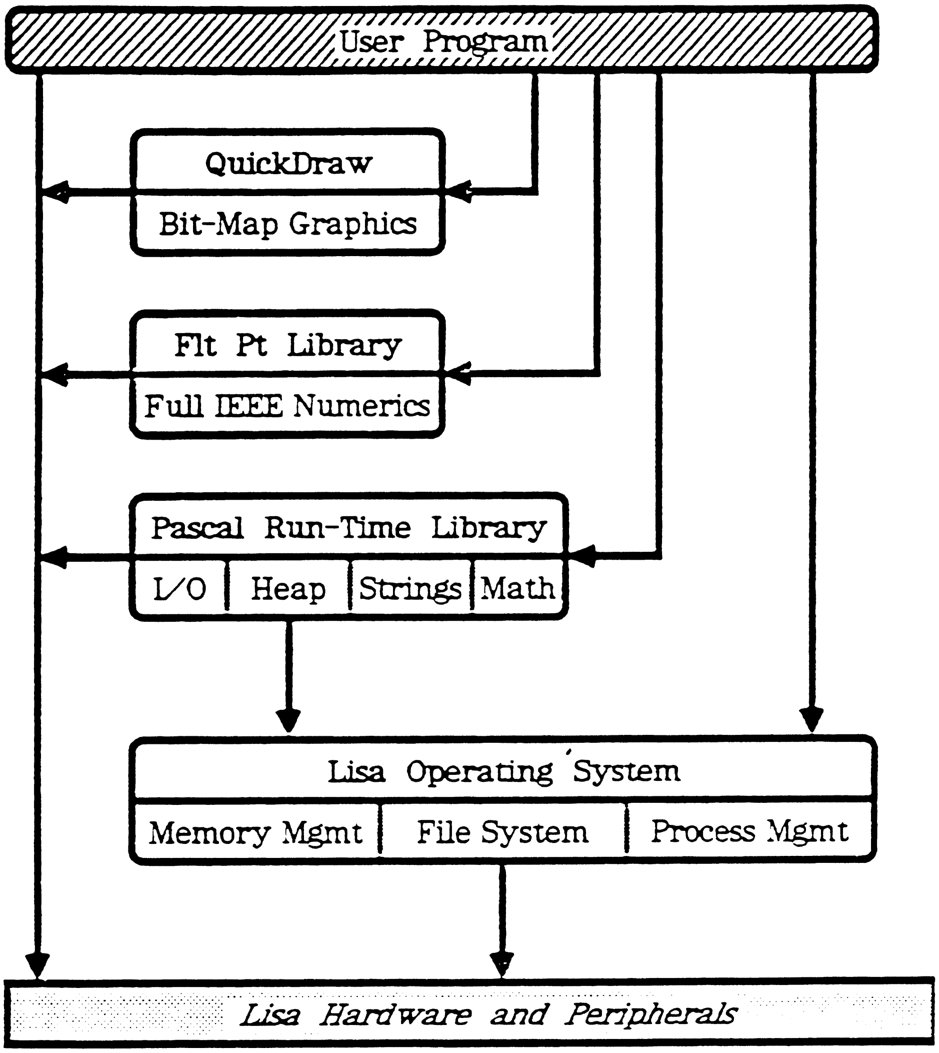


Figure 1-2
Lisa Workshop Environment

THIS MANUAL was produced using LisaWrite, LisaDraw, and LisaList.

ALL PRINTING was done with an Apple Dot Matrix Printer.

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